QUARTERLY SAR REVIEW

A REVIEW OF THE DEPARTMENT OF DEFENSE SEPTEMBER 30, 1981, SELECTED ACQUISITION REPORT (SAR)

Special Study
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PREFACE

This study presents the results of a Congressional Budget Office (CBO) review of the Department of Defense's Selected Acquisition Report (SAR) of September 30, 1981, which was submitted to the Congress on November 17, 1981. The SAR is a quarterly status report on major defense acquisition programs. It (a) presents each system program manager's current "best estimate" of key performance, schedule, and cost goals; (b) compares these estimates with baseline parameters established at the time the programs were approved for full-scale development; and (c) explains all variances from the baselines. It reports on the progress and the problems in meeting designated performance, schedule, and cost targets of the programs.

This paper is intended to be a prototype for a quarterly CBO report on the current SAR. It provides in a few pages facts and data culled from more than 1,000 pages of SAR information. It is designed to be used by Congressional staff members working in the area of defense weapon system acquisition. Comments and suggestions on the content and format of the report are welcome.

This study was made at the request of the House and Senate Committees on Appropriations and Armed Services. Edward Swoboda and William Myers of CBO's Budget Analysis Division prepared the paper under the general supervision of 3ames Blum and Patrick Renehan. Suzie Fominaya typed the several drafts.

December 3, 1981

INTRODUCTION

This special analysis is based on a Congressional Budget Office (CBO) review of the latest Selected Acquisition Report (SAR) issued quarterly by the Department of Defense. The primary purpose is to highlight reported changes in program costs and to present evidence derived from the SAR pointing to possible future changes in the program costs of these weapon systems.

The paper also compares the current dollar program costs presented in the SAR with the current dollar program costs calculated by CBO using the constant dollar program costs and the Administration inflation rates presented in the SAR for each weapon system. The costs presented in the SAR are not always internally consistent. The current dollar program costs for 17 Army and Navy weapon systems could not be reconciled with the constant dollar costs and inflation rates presented in the SAR. CBO has been unable to determine the reasons for these inconsistencies. If the stated inflation rates and constant dollar program costs are correct, then CBO calculates that the current dollar figures understate inflation for 10 weapon systems by a total of $1.4 billion and overstate inflation for 7 weapon systems by a total of $1.6 billion.

The inflation estimates used for all weapon systems in the September 30 SAR are based on the Administration's March 1981 economic assumptions and do not reflect the Administration's July 1981 update.

The study also found that reports on 14 weapon systems in the SAR do not reflect action proposed in the President's September 24 budget revision. They are the Patriot, Fighting Vehicle, M-1, Roland, F/A-18, Harpoon, Tomahawk, Trident, SSN 688, FFG 7, A-10, F-15, F-16, and IR Maverick.

This SAR does not include three major multibillion-dollar programs (the B-1, the M-X, and the Trident II Missile). It proposes to drop three programs (Sparrow III, SURTASS, and PLSS) from future SARs by downgrading them to a non-major program status. The determination as to whether a program is major or non-major is made by the Secretary of Defense.

The report presents information for the Army, Navy, and Air Force on each of the weapon systems included in the September 30 SAR with the exception of six systems (the F-14, Phoenix, E-3A, E-4, EF-111A, and AIM-9M) for which CBO found no changes from the previous SAR or other significant facts.

PATRIOT

The SAR does not reflect the proposed reduction of $100 million (three fire units and 70 missiles) that was presented in the September 24, 1981, Budget Revision.

A revision of the maintenance concept to offset shortfalls in maintainability of the system will increase system costs by $320 million. An additional $265 million in construction costs will be required to deploy the system. None of these costs are included in the current SAR estimate.

The fiscal year 1980-1981 production contract was divided into two separate contracts (one for each fiscal year). The price is now $473 million for two contracts as against the initial price of $380 million for the single contract (a $93 million or 25 percent increase). The SAR does not identify any increase in program scope or new work for either contract that would explain the increase as being other than cost growth.

The Army is considering an increase in the number of launchers per fire unit from five to eight, resulting in an added requirement for 265 launchers and 1,944 missiles at a cost of $1.3 billion.

PERSHING II

The contractors' proposals for long-lead procurement reflect greater costs than anticipated.

The current SAR reflects estimates lower than current estimates. It states that the program manager is attempting to lower the currently estimated costs to the level presented in the SAR. It also reports that the Pershing II has already experienced inflation significantly greater than that projected in Department of Defense guidance.

HELLFIRE

The current program is not expected to achieve mission requirements in missile weight and in seeker performance under icing conditions.

During the reporting period, the completion of the prototype system qualification test slipped two months because of failures in seeker tests. Award of the first production contract slipped one month and completion of the production validation test slipped three months. Delivery of engineering development missiles is six missiles behind plan. Notwithstanding these difficulties and slippages, total estimated costs are unchanged from the previous report.

Inflation after 1982 is overstated by $24 million.

CH47D

The Army is considering a plan that would speed up procurement, allowing program completion in fiscal year 1990 instead of 1994. This change could produce a substantial reduction in total program costs.

Inflation after 1982 is understated by $112 million. Year-to-year inflation rates are as low as 1.4 percent.

UH60

Procurement and program unit costs have increased by 6 percent.

The SAR does not include an increase of $127 million in fiscal year 1982, and a corresponding increase in outyear impact, as a result of planned use of multiyear procurement, and a decrease of $25 million based on fiscal year 1982 contract proposals. These items were included in the September 24, 1981, Budget Revision.

The contractor is currently nine aircraft ahead of delivery schedule.

Inflation after 1982 is understated by $221 million. Year-to-year inflation rates are as low as 1.4 percent.

AH64

The SAR states that a new baseline cost estimate is being prepared and will be available in November. 1/

Inflation after 1982 is understated by $165 million. Year-to-year inflation rates are as low as 1.6 percent.

SOTAS

The 1982 Authorization Defense Act terminated SOTAS because the program is out of cost control.

Projected cost and schedule growth that are not reflected in the SAR costs led to issuance of a stop-work order to a major contractor on July 23, 1981. On October 19 this contract was terminated.

The Army is attempting to limit future development cost growth by converting the remaining contract to a fixed-price contract and making hardware changes.

FIGHTING VEHICLE

The SAR does not include a $3 million reduction in fiscal year 1982 R&D funding that was presented in the September 24, 1981, Budget Revision.

1/ Aviation Week (November 16, 1981) reports that the Army estimate of procurement costs has risen from $4.8 billion to $5.7 billion--a 20 percent increase in total procurement unit costs. If this report is correct, unit costs would exceed the Nunn Amendment threshold.

Although three contracts were awarded for potential second-source production, the current SAR estimate does not include funds for actual second-source production. A 2½-month strike against the prime contractor, which ended on 3une 22, 1981, caused the schedule for initiation of production testing to slip five months and that for testing completion to slip by six months. There was also slippage in the delivery time of the 25 mm weapon because of start-up problems and improper propellant performance for 25 mm ammunition. Notwithstanding these slippages, the SAR costs are unchanged from the previous report.

Inflation after 1982 is overstated by $11 million.

M-1 TANK

The SAR does not delete $276 million and 65 tanks in fiscal year 1982 as done in the September 24, 1981, Budget Revision.

Testing indicates that the M-1 is failing to meet performance objectives in power-train and track durability. The shortfall in power-train durability (2,765 miles versus the 6,000-mile goal) is attributed primarily to design and quality control problems in the production base. A block improvement program was approved on September 18, 1981, but the associated costs are not included in this SAR.

Delivery of production vehicles continues to fail behind schedule. In the previous SAR, deliveries were 95 short of plan. The current SAR (September 30, 1981) reports that deliveries are 127 behind plan. Costs associated with this slippage are not reflected in the SAR. 2/

In this quarter, the number of 120 mm gun tanks (in contrast to the less capable 105 mm gun) is reduced from 4,343 to 3,216 for savings of $117 million.

Inflation from 1972 (the base year for the estimate) through 1981 is shown to be about 7 percent a year higher (a total of 68 percent) than in other comparable programs.

ROLAND

The SAR does not reflect the decision to terminate the program as presented in the September 24, 1981, Budget Revision with savings of $564 million in fiscal year 1982 and $1,540 million in the outyears.

Delivery of production missiles has slipped 13 missiles behind schedule during the reporting period.

Inflation after 1982 is understated by $24 million.

2/ The Wall Street Journal (November 18, 1981), quoting an Army spokesman, reported that deliveries were 167 behind plan on October 31, 1981, and that the Army was considering finding a new contractor to operate one of the two government tank plants.

COPPERHEAD

Production deliveries are 30 missiles behind schedule. The initial operational capability milestone has slipped from November 1981 to April 1982. The SAR does not reflect the cost impact of these changes.

One contract was reduced in scope because the estimated cost at completion exceeded funding availability. Total deliverable projectiles were reduced from 2,291 to 1,114 (by 51 percent)--increasing unit costs, however, by 58 percent.

DIVAD GUN

Inflation after 1982 is understated by $32 million. Year-to-year inflation rates are as low as 1.4 percent.

MLRS

The SAR estimate does not include $93 million in construction funds required for deployment of this weapon system.

F/A-18

The SAR does not reflect an increase of $52 million in fiscal year 1982 R&D funds to offset the impact of weight reduction and roll rate problems and two test aircraft crashes. This increase was reflected in the President's September 24, 1981, Budget Revision.

The start of board of inspection survey trials (the aviation version of sea trials) has been slipped an additional two months to allow time for correction of test deficiencies.

The September SAR reports that the F/A-18 has demonstrated the required roll rate performance, although in the September 24 Budget Revision the Navy requested an additional $52 million to resolve roll rate and additional unknown technical problems in fiscal year 1982.

Inflation after 1982 is understated by $678 million.

The current production plan for 1,366 aircraft does not consider the Congressionally mandated purchase of 332 AV8B aircraft or a proposed increase in the F-14 buy program. Without new requirements, the F/A-18 program, if completed, would provide aircraft in excess of planned Navy requirements. 3/

AV8B

The government estimate for one development contract was increased by $13 million (2 percent) to reflect updated cost performance data, with no increase in scope. This suggests that the contractor is beginning to overrun this cost-reimbursable contract, which does not have a ceiling price to limit the government's liability. The SAR indicates that the Navy also intends to negotiate a cost-reimbursable contract, with no ceiling, for the first procurement effort.

The contractor had delivered only two R&D aircraft, compared with planned deliveries of six aircraft, at the end of the most recent reporting period.

LAMPS MK ffl

The following potential cost increases above current SAR cost estimates are identified in the SAR: significantly increased government-furnished equipment costs; added costs to develop *a* second data link source to meet production requirements for the first three data link buys; $10.1 million for trainer facilities; and a $49 million shortfall to procure equipment for the fiscal year 1979 FFGs. Notwithstanding these potential cost increases, and although a full-production decision is not scheduled until April 1982, four advance procurement contracts for long-lead materials were executed in March and April 1981. Total program costs are unchanged from the June SAR.

3/ According to press reports (Aerospace Daily, August 3, 1981), the Navy is planning to review its inventory objectives for the F/A-18.

Adjustments for the change from three to two FFGs in the fiscal year 1982 authorization are to be made in the December SAR.

Inflation after 1982 is understated by $27 million.

CAPTOR

Deliveries of production units continue to fall further behind schedule. Deliveries are 130 behind schedule as of September 30, compared to 107 as of June 30.

Inflation after 1982 is overstated by $18 million. The inflation rates used range from 1.5 percent to 25 percent per year.

HARM

Although an effort is underway to qualify a second-source producer for the missile, the SAR does not include $95 million required to complete this effort.

Although this is part of a joint Navy/Air Force program, the Air Force and Navy procurement profiles are inconsistent. Therefore the Navy and Air Force SARs are not directly comparable. The size and phasing of the procurement profiles may have a significant impact on the unit cost.

Completion of three program milestones has been delayed. Nevertheless, total program costs are unchanged from the 3une SAR.

HARPOON

The SAR does not delete $69 million and 100 missiles to conform to the September 24, 1981, Budget Revision.

A review of the cost track presented in the SAR (covering the period between the development estimate and the current estimate) suggests that the cost of the procurement program is overstated. The total procurement of missiles is reduced by 680 but the associated costs are increased by $42 million. A significant reduction in the quantity of missiles to be acquired should result in a reduction, not increase, in costs.

The SAR shows more inflation dollars in fiscal years 1984 and 1985 than total dollars for the same years. The program is underfunded by $34 million.

SIDEWINDER

$12 million is needed to purchase 210 missiles added to the fiscal year 1982 budget but not funded.

A second source will have been added one year ahead of schedule. No cost is included for this change.

SPARROW m

Operational testing and evaluation started in June 1981. On July 30, 1981, the AIM-7M was found to be deficient and further testing was cancelled until February 1982 as a result of low missile reliability, lack of missile assets, and demonstrated effectiveness below threshold. The initial operational capability milestone has been slipped 10 months. Cost impacts of these recent changes are not reflected in the current SAR.

The SAR reports that this is the final SAR for this system because, as a result of management decentralization, the program has been downgraded to a non-major program.

TOMAHAWK

The SAR does not reflect a decrease of $36 million in fiscal year 1982 as presented in the September 24, 1981, Budget Revision.

The completion of initial operational testing and evaluation for the antiship missile has been delayed by at least five months to permit correction of a launch failure. The government's cost estimate for one development contract for the common weapons control system was increased by $22.8 million (20 percent) to reflect the contractor's current unfavorable cost performance. Nevertheless, total program costs are unchanged from the June SAR.

Inflation after 1982 is understated by $14 million.

TRIDENT SUBMARINE

The SAR does not delete $961 million and one submarine in fiscal year 1982 as presented in the September 24, 1981, Budget Revision.

The government's cost estimate for three contracts exceeds the target price by $402.8 million (16 percent). Two estimates of costs at completion were increased by a total of $98.5 million in this quarter. This suggests that the contracts are overrunning. Nevertheless, total program costs are unchanged from the June SAR.

Inflation after 1982 is overstated by $640 million. Implicit in the current dollar cost are year-to-year inflation rates that range from 33 percent to a negative 15 percent.

TRIDENT I MISSILE

The government cost estimate for one contract exceeds the target price by $20.4 million (6 percent). The delivery of completed missiles is falling further behind schedule. In June, the deliveries were 29 missiles behind schedule. In the current SAR, deliveries are 33 missiles behind schedule. Costs are nevertheless unchanged from the previous SAR.

Inflation after 1982 is understated by $123 million.

SAL

The initial operational capability milestone has slipped three months but no changes are reflected in the costs of the system.

Between the development estimate and the current estimate, the number of production projectiles has been reduced by 15,700 (46 percent) while the costs associated with quantity changes reflect an increase of $22 million (3 percent). The net effect is an increase in program unit cost of 50 percent.

SURTASS

DoD states that this is the last SAR for this program because it is now to be designated a non-major system. Program unit costs have nevertheless grown from the development estimate of $19.9 million to the current estimate of $45.4 million, or 128 percent.

TACTAS

The previous SAR reported a revised milestone schedule reflecting slippages of three to nine months for most major milestones, including first production delivery and initial operational capability. The impact of these unfavorable changes is not reflected in the previous or current SARs.

Total SAR costs exclude 31 units that are to be procured with shipbuilding and construction Navy (SCN) funds beginning in fiscal year 1983.

SSN 688

The SAR does not reflect a net increase of $76 million for cost growth in fiscal years 1981 and 1982, as presented in the September 24, 1981, Budget Revision.

This program is three submarines behind the procurement delivery schedule.

In 3uly 1981 a prime contractor (Electric Boat) revised the April 1981 delivery schedule to reduce the total delay in ship deliveries from 95 months to 69 months. Although this is an improvement, the net effect may be increased real cost and will certainly be increased nominal cost because of the longer period of exposure to the impact of inflation.

Inflation after 1982 is overstated by $479 million. Year-to-year inflation rates run as high as 21 percent.

CG-47

Government and contractor estimates for the lead ship (Ticonderoga) at completion were increased by $36.9 million (11 percent) with no increase in scope of work. $263 million of the increase was for actual inflation experienced, vice the inflation amount budgeted by the Navy; however, no reason was provided for the other $10.6 million increase. Notwithstanding these increases, total program costs remain unchanged from the June SAR. If each ship requires a similar increase in funds, the impact would be a total increase of $775 million.

The program office is assessing the increased cost and associated schedule delay caused by damage to parts of one of the guided missile launchers for the lead ship.

Inflation after 1982 is overstated by $304 million.

GUIDED MISSILE FRIGATE (FFG 7)

Procurement program unit costs have increased by 0.5 percent.

The SAR fails to delete $224 million and one frigate in fiscal year 1982 to conform to the September 24, 1981, Budget Revision.

A funding shortfall exists for the procurement of LAMPS MK III equipment for the fiscal year 1981 program year ships.

Inflation after 1982 is overstated by $86 million. Year-to-year inflation rates range from 15.3 percent to a negative 9.6 percent.

NATO PHM

Procurement and program unit costs have increased by 0.5 percent.

CVN 68 CLASS

Since $658 million in long-lead funds were included in the March 1981 Budget Amendment for another ship of this class, the SAR does not reflect the cost of this additional vessel. Costs of the total program are thus understated by approximately $3.0 billion.

A-10

The SAR does not reflect the deletion of 40 aircraft and $275 million in fiscal year 1982 as presented in the September 24, 1981, Budget Revision.

F-15

The SAR does not reflect the deletion of $35 million in fiscal year 1982 for long-lead procurement and the resulting deletion of 12 F-15 aircraft and associated dollars in fiscal year 1983. This change was presented in the September 24, 1981, Budget Revision.

Although the F-15 worldwide mission-capable rate for 3une was 66 percent, only one command, USAFE, is above the mission-capable goal of 70 percent.

F-16

The SAR does not include the following program changes as presented in the September 24, 1981, Budget Revision: a $249 million increase in fiscal year 1982 and corresponding outyear impact as a result of multi year procurement; a $66 million reduction in fiscal year 1981 for long-lead items; and a $28 million reduction in fiscal year 1982 for support equipment.

A new production contract dated September 8, 1981, appears already to reflect an overrun of $23 million or 3 percent.

PLSS

As a result of reduced funding in fiscal year 1981, a higher target price will be negotiated no later than the second quarter of 1982 for the development contract. Such renegotiation will undoubtedly raise the total price.

Cost estimates for this system include development costs only. Cost estimates for an operational system have been prepared for inclusion in the fiscal year 1983 budget. To the extent that operational systems are procured, the system cost is understated.

DoD states that this is the last SAR for this program because it is now to be designated a non-major system. Program unit costs have grown from the development estimate of $318.2 million to the current estimate of $473.6 million or by 49 percent.

IR MAVERICK

The SAR does not reflect a reduction of $11 million in fiscal year 1982 R&D funds as presented in the September 24, 1981, Budget Revision.

The June SAR reported that 21 missiles had been delivered while the September SAR says only 20 have been delivered. The program is now 12 missiles behind delivery schedule. Late deliveries of missiles and unfavorably warm winter weather that precluded winter testing have caused a slippage of testing milestones and the full-scale production decision by eight months. Despite these slippages total costs remain unchanged.

DSCS III

The launch of the first demonstration satellite has slipped at least 15 months, and the production decision milestone has slipped 12 months. Despite these slippages, total costs have increased only $1.3 million (0.1 percent).

NAVSTAR GPS

The two development contracts for user equipment are experiencing unfavorable cost and schedule performance. If the contractors continue to overrun the development contracts, it is probable that they will also overrun the production contracts.

ALCM

Procurement unit costs have increased by 3 percent. Program unit costs have increased by 2 percent.

GLCM

During the reporting period, a baseline change resulted in an increase of $9.6 million and an extension of one development contract effort by six months. Another contract is now projected to overrun its budget by $5.6 million because of unfavorable cost performance. Despite these events, total costs of the program remain unchanged.

HARM

The current estimate is based on a single-source contract; the Navy is planning to request additional funding for a second contractor. (See comments on Navy HARM.)

AIM 7M SPARROW II

The current SAR program is short $23.0 million for the proposed 1981 buy. Based upon this increased 1981 cost, it appears that 1982 may be short by $22 million, with similar increases necessary for 1983-1986.